

CLAIMS

What is Claimed is:

1. A platform lift apparatus, comprising:
 - a mounting frame adapted to be installed in a ceiling, the mounting frame
 - 5 having a foldable ladder coupled thereto, the foldable ladder being adapted to be substantially contained within said mounting frame when stowed and extended downward to a floor below when deployed; and
 - a trolley comprising a drive mechanism including a plurality of lift drums each having an associated lift tether at least partially wound thereon, and a lift platform
 - 10 coupled to each end of said plurality of lift tethers so as to be carried by said trolley, said trolley being moveable laterally with respect to said mounting frame between a first position substantially alongside said mounting frame and a second position aligned vertically with said mounting frame;
 - wherein, upon deployment of said ladder and with said trolley in said
 - 15 second position, said lift platform is selectively movable along a length of said ladder by operation of said drive mechanism.
2. The platform lift apparatus of Claim 1, wherein at least a portion of said lift platform maintains contact with said ladder while moving along said length of said ladder.
- 20 3. The platform lift apparatus of Claim 1, wherein said ladder further comprises at least one guide rail extending along said length of said ladder, said lift platform further comprises at least one wheel that maintains contact with said at least one guide rail while moving along said length of said ladder.
4. The platform lift apparatus of Claim 3, wherein said at least one guide rail
- 25 further comprises a bracket coupled to at least one side of said ladder.

5. The platform lift apparatus of Claim 1, wherein said lift platform further comprises at least one wheel that maintains contact with a surface of said ladder while moving along said length of said ladder.

6. The platform lift apparatus of Claim 1, wherein said mounting frame further comprising at least one track extending laterally therefrom, said trolley further comprising at least one wheel oriented to travel within said at least one track to permit lateral movement of said trolley between said first and second positions.

7. The platform lift apparatus of Claim 6, wherein said at least one guide track further comprises a channel having a shape corresponding to that of said at least one wheel.

8. The platform lift apparatus of Claim 1, wherein said drive mechanism further comprises at least one shaft carrying at least one of said plurality of lift drums.

9. The platform lift apparatus of Claim 8, wherein said drive mechanism further comprises an electric motor operatively coupled to said at least one shaft.

10. The platform lift apparatus of Claim 8, wherein at least one of said plurality of lift drums further comprises an idler lift drum operatively coupled to said at least one shaft.

11. The platform lift apparatus of Claim 1, wherein said lift tether further comprises a braided or webbing material.

12. The platform lift apparatus of Claim 1, wherein said ladder further comprises a plurality of ladder sections folded on top of one another when stowed.

13. The platform lift apparatus of Claim 1, wherein said ladder extends in a generally diagonal direction when deployed, said lift platform being selectively movable in said diagonal direction along said length of said ladder by operation of said drive mechanism.

14. A platform lift apparatus, comprising:

a mounting frame adapted to be installed in a ceiling, the mounting frame having a foldable ladder coupled thereto, the foldable ladder being adapted to be substantially contained within said mounting frame when stowed and extended
5 downward to a floor below when deployed;

a trolley comprising a drive mechanism including a plurality of lift drums each having an associated lift tether at least partially wound thereon, and a lift platform coupled to each end of said plurality of lift tethers so as to be carried by said trolley; and

at least one track extending laterally from said mounting frame, said
10 trolley further comprising at least one wheel oriented to travel within said at least one track to permit lateral movement of said trolley with respect to said mounting frame between a first position substantially alongside said mounting frame and a second position aligned vertically with said mounting frame;

wherein, upon deployment of said ladder and with said trolley in said
15 second position, said lift platform is selectively movable along a length of said ladder by operation of said drive mechanism.

15. The platform lift apparatus of Claim 14, wherein at least a portion of said lift platform maintains contact with said ladder while moving along said length of said ladder.

20 16. The platform lift apparatus of Claim 14, wherein said ladder further comprises at least one guide rail extending along said length of said ladder, said lift platform further comprises at least one wheel that maintains contact with said at least one guide rail while moving along said length of said ladder.

25 17. The platform lift apparatus of Claim 16, wherein said at least one guide rail further comprises a bracket coupled to at least one side of said ladder.

18. The platform lift apparatus of Claim 14, wherein said lift platform further comprises at least one wheel that maintains contact with a surface of said ladder while moving along said length of said ladder.

5 19. The platform lift apparatus of Claim 14, wherein said at least one guide track further comprises a channel having a shape corresponding to that of said at least one wheel.

20. The platform lift apparatus of Claim 14, wherein said drive mechanism further comprises at least one shaft carrying at least one of said plurality of lift drums.

10 21. The platform lift apparatus of Claim 20, wherein said drive mechanism further comprises an electric motor operatively coupled to said at least one shaft.

22. The platform lift apparatus of Claim 20, wherein at least one of said plurality of lift drums further comprises an idler lift drum operatively coupled to said at least one shaft.

15 23. The platform lift apparatus of Claim 14, wherein said lift tether further comprises a braided or webbing material.

24. The platform lift apparatus of Claim 14, wherein said ladder further comprises a plurality of ladder sections folded on top of one another when stowed.

20 25. The platform lift apparatus of Claim 14, wherein said ladder extends in a generally diagonal direction when deployed, said lift platform being selectively movable in said diagonal direction along said length of said ladder by operation of said drive mechanism.

26. A retrofit kit for a mounting frame installed in a ceiling and having a foldable ladder coupled thereto, the foldable ladder being adapted to be substantially contained within said mounting frame when stowed and extended downward to a floor below when deployed, the retrofit kit comprising:

5 a trolley comprising a drive mechanism including a plurality of lift drums each having an associated lift tether at least partially wound thereon, and a lift platform coupled to each end of said plurality of lift tethers so as to be carried by said trolley; and

at least one track extending laterally from said mounting frame, said trolley further comprising at least one wheel oriented to travel within said at least one track to permit lateral movement of said trolley with respect to said mounting frame between a first position substantially alongside said mounting frame and a second position aligned vertically with said mounting frame;

10 wherein, upon deployment of said ladder and with said trolley in said second position, said lift platform is selectively movable along a length of said ladder by operation of said drive mechanism.

27. The retrofit kit of Claim 26, wherein at least a portion of said lift platform maintains contact with said ladder while moving along said length of said ladder.

28. The retrofit kit of Claim 26, wherein said ladder further comprises at least one guide rail extending along said length of said ladder, said lift platform further comprises at least one wheel that maintains contact with said at least one guide rail while moving along said length of said ladder.

29. The retrofit kit of Claim 28, wherein said at least one guide rail further comprises a bracket coupled to at least one side of said ladder.

30. The retrofit kit of Claim 26, wherein said lift platform further comprises at least one wheel that maintains contact with a surface of said ladder while moving along said length of said ladder.

31. The retrofit kit of Claim 26, wherein said at least one track further comprises a channel.

32. The retrofit kit of Claim 26, wherein said drive mechanism further comprises at least one shaft carrying at least one of said plurality of lift drums.

5 33. The retrofit kit of Claim 32, wherein said drive mechanism further comprises an electric motor operatively coupled to said at least one shaft.

34. The retrofit kit of Claim 32, wherein at least one of said plurality of lift drums further comprises an idler lift drum operatively coupled to said at least one shaft.

10 35. The retrofit kit of Claim 26, wherein said lift tether further comprises a braided or webbing material.

36. The retrofit kit of Claim 26, wherein said ladder further comprises a plurality of ladder sections folded on top of one another when stowed.

15 37. The retrofit kit of Claim 26, wherein said ladder extends in a generally diagonal direction when deployed, said lift platform being selectively movable in said diagonal direction along said length of said ladder by operation of said drive mechanism.